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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/736,323	12/15/2000	Anders Lundqvist	027557-077	8967

27045 7590 07/05/2006

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EXAMINER

FOX, BRYAN J

ART UNIT PAPER NUMBER

2617

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/736,323

Applicant(s)

LUNDQVIST ET AL.

Examiner

Bryan J. Fox

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,11,14-17,22 and 27-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,11,14-17,22 and 27-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3, 5, 6, 11, 14, 16, 17, 22 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haberman et al in view of Lind et al.

Regarding claim 1, Haberman et al disclose a handoff of the mobile station from its current digital cell D2 to the candidate digital cell D1 involves a soft handoff (see column 8, lines 27-49), which reads on the claimed, "a mobile cellular telecommunications network employing macro-diversity, wherein a mobile station can establish a plurality of simultaneous radio links with a plurality of digital cells in the network, said network comprising: means for dividing the plurality of digital cells of the

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network into a plurality of groups, said plurality of groups including: a first group of geographically related digital cells wherein the mobile station has an established radio link with at least one digital cell in the first group; and a second group of geographically related digital cells, wherein the mobile station does not have an established radio link with any of the digital cells in the second group.” Haberman et al fail to disclose means for establishing a radio link between the mobile station and a digital cell in the second group only upon meeting a second link quality threshold that is higher than the first link quality threshold.

In a similar field of endeavor, Lind et al disclose a mobile station that uses information pertaining to the hierarchical level of cells within the cellular telephone system to identify the lowest level cells and compares the downlink signal strength against a threshold and if no cell meets these criteria, the mobile station repeats the process for cells on successively higher hierarchical levels until a cell is selected (see column 4, line 54 – column 5, line 4).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Haberman et al with Lind et al to include the above hierarchical structure and thresholds in order to maximize capacity of the cellular telephone system as suggested by Lind et al (see column 2, lines 30-50).

Regarding claim 28, Haberman et al disclose a handoff of the mobile station from its current digital cell D2 to the candidate digital cell D1 involves a soft handoff (see column 8, lines 27-49), which reads on the claimed, “a method of establishing macro-diversity radio links in a mobile cellular telecommunications network, wherein a mobile

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station can establish a plurality of simultaneous radio links with a plurality of digital cells in the network, said method comprising: dividing the plurality of digital cells of the network into a plurality of groups, said plurality of groups including: a first group of geographically related digital cells wherein the mobile station has an established radio link with at least one digital cell in the first group; and a second group of geographically related digital cells, wherein the mobile station does not have an established radio link with any of the digital cells in the second group.” Haberman et al fail to disclose establishing a radio link between the mobile station and a digital cell in the second group only upon meeting a second link quality threshold that is higher than the first link quality threshold.

In a similar field of endeavor, Lind et al disclose a mobile station that uses information pertaining to the hierarchical level of cells within the cellular telephone system to identify the lowest level cells and compares the downlink signal strength against a threshold and if no cell meets these criteria, the mobile station repeats the process for cells on successively higher hierarchical levels until a cell is selected (see column 4, line 54 – column 5, line 4).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Haberman et al with Lind et al to include the above hierarchical structure and thresholds in order to maximize capacity of the cellular telephone system as suggested by Lind et al (see column 2, lines 30-50).

Regarding claims 3 and 14, the combination of Haberman et al and Lind et al discloses a signal strength threshold (see column 10, lines 29-44), which reads on the claimed, "the quality threshold relates to a required signals quality level."

Regarding claims 5 and 16, Haberman et al fail to disclose a plurality of layers of groups are defined, such that each digital cell is in one group within each layer.

In a similar field of endeavor, Lind et al disclose hierarchical layers of cells (see column 3, lines 27-59), which reads on the claimed, "plurality of layers of groups are defined, such that each digital cell is in one group within each layer."

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Haberman et al with Lind et al to include the above hierarchical structure and thresholds in order to maximize capacity of the cellular telephone system as suggested by Lind et al (see column 2, lines 30-50).

Regarding claims 6 and 17, as applied to claim 5, the combination of Haberman et al and Lind et al discloses cells in a hierarchical structure (see Lind et al column 3, lines 27-59), which reads on the claimed, "wherein digital cells associated with one base station are considered to be in the same group."

Regarding claims 11 and 22, the combination of Haberman et al and Lind et al discloses the use of CDMA (see Haberman et al column 7, lines 11-26), which reads on the claimed, "wherein the network is a Code Division Multiple Access network."

Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haberman et al in view of Lind et al as applied to claims 1 and 28 above, and further in view of Achour et al (WO 01/03464).

Regarding claims 4 and 15, the combination of Haberman et al and Lind et al fails to disclose the quality threshold relates to a longer time period for which a required signal quality level is satisfied.

In a similar field of endeavor, Achour discloses a threshold for a certain amount of time (see e.g. figure 5), which reads on the claimed, "the quality threshold relates to a longer time period for which a required signals quality level is satisfied."

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Haberman et al and Lind et al with Achour et al to include the above threshold in conjunction with a time period in order to increase the performance of wireless communication devices located near the edge of a cell as suggested by Achour et al (see column 1, lines 32-50).

Claims 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haberman et al in view of Lind et al, and further in view of Rinne et al.

Regarding claim 27, Haberman et al disclose a handoff of the mobile station from its current digital cell D2 to the candidate digital cell D1 involves a soft handoff (see column 8, lines 27-49), which reads on the claimed, "a mobile cellular telecommunications network employing macro-diversity, wherein a mobile station can establish a plurality of simultaneous radio links with a plurality of digital cells in the

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network, said network comprising: means for dividing the plurality of digital cells of the network into a plurality of groups, said plurality of groups including: a first group of digital cells...wherein the mobile station has an established radio link with at least one digital cell in the first group; and a second group of digital cells...wherein the mobile station does not have an established radio link with any of the digital cells in the second group.” Haberman et al fail to disclose means for establishing a radio link between the mobile station and a digital cell in the second group only upon meeting a second link quality threshold that is higher than the first link quality threshold.

In a similar field of endeavor, Lind et al disclose a mobile station that uses information pertaining to the hierarchical level of cells within the cellular telephone system to identify the lowest level cells and compares the downlink signal strength against a threshold and if no cell meets these criteria, the mobile station repeats the process for cells on successively higher hierarchical levels until a cell is selected (see column 4, line 54 – column 5, line 4).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Haberman et al with Lind et al to include the above hierarchical structure and thresholds in order to maximize capacity of the cellular telephone system as suggested by Lind et al (see column 2, lines 30-50). The combination of Haberman et al and Lind et al fails to disclose the groups of digital cells are controlled by different radio network controllers.

In a similar field of endeavor, Rinne et al disclose multiple radio network controllers each with a plurality of base stations (see figure 4).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Haberman et al and Lind et al with Rinne et al to include the above network controllers in order to make the network easily extendable and reconfigurable as suggested Rinne et al (see column 4, lines 34-60).

Regarding claim 29, Haberman et al disclose a handoff of the mobile station from its current digital cell D2 to the candidate digital cell D1 involves a soft handoff (see column 8, lines 27-49), which reads on the claimed, "a method of establishing macro-diversity radio links in a mobile cellular telecommunications network, wherein a mobile station can establish a plurality of simultaneous radio links with a plurality of digital cells in the network, said method comprising comprising: means for dividing the plurality of digital cells of the network into a plurality of groups, said plurality of groups including: a first group of digital cells... wherein the mobile station has an established radio link with at least one digital cell in the first group; and a second group of digital cells... wherein the mobile station does not have an established radio link with any of the digital cells in the second group." Haberman et al fail to disclose means for establishing a radio link between the mobile station and a digital cell in the second group only upon meeting a second link quality threshold that is higher than the first link quality threshold.

In a similar field of endeavor, Lind et al disclose a mobile station that uses information pertaining to the hierarchical level of cells within the cellular telephone system to identify the lowest level cells and compares the downlink signal strength against a threshold and if no cell meets these criteria, the mobile station repeats the

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process for cells on successively higher hierarchical levels until a cell is selected (see column 4, line 54 – column 5, line 4).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Haberman et al with Lind et al to include the above hierarchical structure and thresholds in order to maximize capacity of the cellular telephone system as suggested by Lind et al (see column 2, lines 30-50). The combination of Haberman et al and Lind et al fails to disclose the groups of digital cells are controlled by different radio network controllers.

In a similar field of endeavor, Rinne et al disclose multiple radio network controllers each with a plurality of base stations (see figure 4).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Haberman et al and Lind et al with Rinne et al to include the above network controllers in order to make the network easily extendable and reconfigurable as suggested Rinne et al (see column 4, lines 34-60).

Response to Arguments

Applicant's arguments with respect to claims 1, 3-6, 11, 14-17, 22 and 27-29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan J. Fox whose telephone number is (571) 272-7908. The examiner can normally be reached on Monday through Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bryan Fox
June 25, 2006



JOSEPH FEILD
SUPERVISORY PATENT EXAMINER